

ABSTRACT OF THE DISCLOSURE

An electron gun includes a cathode portion (1) which emits electrons, an anode portion (3) which accelerates the emission electrons, a bias portion (2) which is arranged between the cathode portion and anode portion and controls trajectories of the emission electrons, a shielding portion (12) which is arranged below the anode portion and shields some of the emission electrons, and a cooling portion (14) which cools the shielding portion.